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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,639	12/19/2001	Sung-Muk Lim	9903-44	1485

7590 10/17/2003

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EXAMINER

SANDERS, ALLYSON N

ART UNIT PAPER NUMBER

2876

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/027,639

Applicant(s)

LIM ET AL.

Examiner

Allyson N Sanders

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

1. The present application claims priority from Korean Patent Application No. 2001-2569, filed January 17, 2001.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwakiri et al (6,377,866).

Iwakiri et al teaches the following in regards to claims 1-26:

"A device operable to apply an identification mark to a semiconductor wafer and inspect the applied mark immediately after its application. Engraving information and wafer thickness data are supplied to an engraving device and the engraving operation

applies the mark to the wafer accordingly. A camera then reads the applied mark as read information and a comparator compares the read information to the engraving information and an error is determined in an information processing device. In order to maintain efficient operation of the mark application process, the error determined in the information processing device is then used to control the engraving device as it applies identification marks.” (Abstract).

“Conventionally, in the manufacturing process of a semiconductor wafer, a semiconductor wafer with an identification mark such as a character or a barcode engraved on the surface thereof by a laser beam is manufactured by the following process:

(1) cutting an ingot to obtain a sliced wafer; (2) engraving an identification mark on the surface of the sliced wafer by use of an engraving device; (3) lapping the sliced wafer; (4) etching the lapped wafer; (5) polishing and washing the etched wafer; and (6) drying the washed wafer and reading only the barcode of the mark to inspect.” (Col. 1, lines 16-29).

“Engraving information for engraving the identification mark is inputted into the engraving device body 2 via a keyboard 2a, a computer mouse (not shown) or the like. The engraving information is confirmed on the screen 2b and sent to the information processing device 1. The laser head 21, which is connected to the engraving device body 2, is disposed over the engraved position of the sliced wafer 10. Moreover, the turntable 4 is rotated so that the reading camera 31 is disposed over the sliced wafer 10 and the identification mark is disposed thereunder. The identification mark read from

the reading camera 31 is projected on the screen 3a of the reading device body 3 while the read information is sent to the information processing device 1." (Col. 3, lines 1-13).

Figure 2 shows a flow chart of the engraving and comparing process. The process is explained below:

(1) measuring the thickness of the sliced wafer and inputting thickness information into the engraving device body (S.sub.1). (2) inputting the engraving information for engraving the identification mark into the engraving device body (S.sub.2). (3) deciding the shape and the engraving depth of the identification mark in accordance with the thickness information and the engraving information of the identification mark, and engraving the identification mark (S.sub.3). (4) reading the engraved mark by the reading device (S.sub.4). (5) comparing the read information and the engraving information by the information processing device (S.sub.5). (6) If the compared result is within the predetermined allowance, giving instructions for sending the engraved wafer to the lapping step (S.sub.6), and calculating the error and inputting the error information for modifying the engraving to the engraving device body (S.sub.7). (7) If the compared result is not within the predetermined allowance, terminating the instructions for sending the engraved wafer to the lapping step (S.sub.8) and stopping the engraving (S.sub.9).

When the invention is constructed as above, all the engraved marks on the semiconductor wafers can be inspected, thus preventing the engraving of defective marks." (Col. 3, lines 16-59).

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Yokoyama (4,166,574), Kosarew (5,619,416), and Hampton (4,794,238).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson Sanders* whose telephone number is (703) 305-5779. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (703) 305-3503. The fax phone number for this Group is (703) 872-9306.

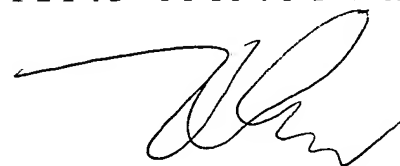
Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [[allyson.sanders@uspto.gov](mailto:allyson.sanders@uspto.gov)].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Art Unit: 2876

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Allyson Sanders  
Patent Examiner  
Art Unit 2876  
September 30, 2003

A handwritten signature in black ink, appearing to read 'Thien M. Le', with a stylized, flowing script.

**THIEN M. LE**  
**PRIMARY EXAMINER**